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New Californian Coleoptera.

By F. E. BLAISDELL, M. D.

(Plate II.)

Recent collecting in California has brought to light a most interesting blind Tenebrionide, and while making it known, I have grasped the opportunity to describe other new species, as follows:

Lathrotropis caseyi sp. nov.—Elongate, parallel and shining, color variable, when mature rufo-piceous, with legs rufous. Head, about equal in width to the elytra, about as long as wide, evenly convex; sides very feebly arcuate, about parallel, broadly and evenly rounded at base; eyes, small, not in the least prominent; punctures moderate in size, irregular, sparsely placed at centre of frons, denser at the periphery; antennæ rather stout and short, joints two and three obconical and subequal in length, fourth rather short and apparently wider than long, fifth to the tenth inclusive about as wide as long, eleventh pointed oval and a little longer than wide. Prothorax oblong-oval, a little longer than wide, sides parallel, angles broadly and evenly rounded, the anterior scarcely more so than the posterior; punctures similar to those on the head, sparsely and irregularly arranged, median smooth line rather broad. Elytra subquadrate, parallel, a little longer than wide, slightly longer and one-fourth wider than the prothorax; punctures subseriately

placed, becoming quite irregular at the periphery, rather coarse and slightly impressed. Abdomen parallel and about as wide as the elytra, surface throughout extremely finely rugulose.

Male.—(Fig. 3 of plate). With the sixth segment at apex rather deeply emarginate, bottom of the emargination rounded, sinus about as wide as deep, sides divergent, angles rounded and with a narrow membranous margin; surface at apical two-thirds with a large median oblong-oval impression, the latter set with small, short, black chitinous points, the sides of the concavity fringed with sparsely set inwardly curved hairs, the concavity is continued to the segmental base by a broad, glabrous, shallow groove. The apex of the fifth segment is more or less slightly sinuate at middle; surface marked with a broad, shallow, glabrous longitudinal groove, which passes at middle third into a rather broad circular concave impression that is glabrous and guarded laterally and posteriorly by two small, short, black chitinous, obtuse and more or less incurved tubercles. The groove at apex has a few scattered hairs.

Female—With the sixth ventral broadly and obtusely rounded at tip, and apparently with a minute triangular impression at middle. The fifth ventral is unmodified. Measurements—3. Length, 8.0 mm.; width 1.0 mm. 9—Length, 7.0 mm.; width, 1.0 mm.

Hab.—Shasta Retreat, Siskiyou Co., California; elevation, 2,416 feet.

A large series of this species was taken by sifting along the banks of the mountain streams in July, at the above-named locality. The secondary sexual characters are sufficiently distinct to justify my describing it as new. I cannot refer it to any of the species described by Maj. Casey from single females. In some points it appears close to *validiceps*. Species possessing a community of habitus should not be founded upon females when the male characters are taken as the criterion.

I take pleasure in dedicating the present species to Maj. Thos. Casey in recognition of many favors, and also that his name may occur among the many that he has so aptly described.

In the plate I have figured other species for comparison. A work to be truly valuable should have all of the species figured in some way or another; no words can convey to the mind of the student the details of morphological characters like a correct drawing or even a simple diagram.

Figure 4 of the plate shows the secondary male sexual characters of what I recognize as *L. puncticeps* Lec., although not

typical: "male with a small feeble rounded impression at the apex of the fifth ventral, the apex broadly and feebly sinuato-truncate; sixth segment with a large triangular emargination at tip, generally not quite a third as wide as the apex and nearly as deep as wide, the surface narrowly elevated along the median line toward the notch, the ridge clothed with short stiff black spicules, some of the latter also present at the apices of the segment at each side of the notch" (Casey). The specimen figured was taken at Leona Heights, Alameda Co., California.

Figure 5 of the plate is taken from what I have found as the most common species: "Male with a small unimpressed glabrous area at the middle at apex of the fifth ventral, the sixth with a triangular impression, the apex broadly, parabolically sinuate" (Casey). It is undoubtedly a jacobina Lec. By the figure it will be seen that the triangular impression of the sixth ventral is clothed with short and minute spicules, and that they do not quite reach the margin. Casey does not mention this fact, and leaves the student in doubt. I have not seen any other form that I could refer to jacobina, and I have examined a large series taken in Alameda, San Francisco, Calaveras and Eldorado Counties.

Figure 6 gives a form found at San Diego, and appears related to relicta Casey. "Male with a small and very faint oval impression at the apex of the fifth ventral, the sixth with a broadly parabolic, shallow, gradually formed apical sinus, about a third as wide as the segment, and six times as wide as deep, the surface adjoining extremely feebly impressed, the impression having a small patch of black spicules anteriorly." (Casey) If this is relicta it appears as a less strongly developed form of jacobina. I find the secondary sexual characters variable. I have figured three distinct forms and each must vary considerably, and by experiments in heredity might prove to be dominant or recessive forms, as the case might be. Let students obtain a hundred specimens to each one they now collect for a cabinet set, and let them record variations. It will prove interesting and valuable.

The following two species of Dasytes belong to that section

in Casey's synoptic table in which the submarginal line of the pronotum is strongly impressed and entire, and with the pubescence intermingled with larger black hairs.

Dasytes vicinus sp. nov.—Oblong, rather stout, black, shining, with a feeble virido-æneous lustre, and moderately convex; antennæ black to slightly piceous; femora black, tibiæ and tarsi rufo-ferruginous to picescent; pubescence sparse, long and rather bristling, consisting of more or less suberect and backwardly curved, luteo-cinerous hairs on elytra, those on the head quite erect, on pronotum irregular in direction, otherwise similar, and abundantly intermixed with more or less erect, slightly stouter, black and stiffer hairs, which are on the elytra slightly backwardly curved, irregularly so on the pronotum, more erect on the head and slightly longer about the humeri, gradually becoming slightly shorter toward the elytral apices. Head scarcely transverse, about (\emptyset) or scarcely (\mathcal{P}) as wide as the prothorax at apex, front not impressed, very slightly and evenly convex, quite evenly and not very closely punctate, punctures rather impressed, slightly denser on the vertex, occiput, and tempora, epistoma more or less impunctate; eyes not prominent and moderate in size, and not very coarsely granulate; antennæ longer than the head and prothorax, rather stout (3), or filiform and scarcely longer than the head and prothorax (♀); subserrate, joints 3-10 subtriangular (thicker in the \mathcal{F}), third slender and longer than wide (\mathcal{P}), eleventh ovate and about twice as long as wide. Prothorax about as wide as long (3) or slightly transverse (\mathcal{P}) , widest behind the middle, sides moderately arcuate in basal half, less so and feebly converging anteriorly, feebly sinuate behind the apical angles; edges subserrulate; apex scarcely as wide as the base, and arcuato-truncate in circular arc; apical angles obtuse and scarcely rounded; base broadly and moderately arcuate, subsinuate laterally; basal angles scarcely evident and obtuse; disc evenly and moderately convex, less so antero-posteriorly, strongly punctate, punctures impressed and separated by less than their own diameters, slightly denser in the Q, intervals smooth, more or less feebly convex, or flat in the on; submarginal line strong and entire, submarginal area coarsely reto-rugose.

Elytra rather large, less than twice as long as wide; sides feebly arcuate, subparallel (\emptyset) or slightly widened behind the middle ($\mathbb Q$); base slightly wider than the prothorax; humeri scarcely at all tumid; apex rather obtusely parabolic, sutural angles feebly and narrowly rounded; disc moderately convex, punctate, the punctures irregular, coarse, impressed and separated by their own diameters or less, interspaces more or less feebly convex with a tendency to form transverse and very feebly evident rugulæ. Abdomen finely and rather densely punctulate, and apparently more or less minutely reticulate; pubescence ather sparce and luteous, the hairs recumbent and rather long. Measure-

ments—3. Length, 2.5 mm.; width, 1.0 mm. Q. Length, 3.0 mm.: width, 1.3 mm.

Hab.—San Diego, California.

This species, although related to *hudsonicus*, differs from it and also from *obtusus* sufficiently by the coarse punctuation, and from *expansus* by the more convex form and coarser pronotal punctuation.

The male has the fifth ventral rather broadly arcuato-truncate, and the female has the fifth ventral slightly lobed at middle, the sides appear slightly sinuate from being rather strongly reflexed while the middle is subhorizontal and just slightly deflexed.

Described from a & and Q, a small series all together, that was not taken at a high altitude. One of the type specimens was examined by Casey and bears his label n. sp.

Dasytes shastensis sp. nov.—Stout, oblong, black, moderately convex. feebly shining, lustre slightly dull and feebly virido-æneous, antennæ, tibiæ and tarsi frequently picescent; pubescence sparse, moderate in length, consisting of rather decumbent luteo-cinerous hairs intermingled with moderately long blackish stiff hairs, which are erect and bristling on head and pronotum and slightly backwardly directed on the elytra. Head, evidently transverse, a little wider than the prothoracic apex, interocular region rather broad, not impressed and very feebly convex, quite evenly and rather closely punctate, punctures small; eyes rather prominent and somewhat coarsely facetted; antennæ slender and filiform and reaching about to base of the prothorax, third joint slender, obconicocylindrical and about twice as long as wide, eleventh ovate, laterally compressed and somewhat pointed at tip. Prothorax about one-third wider than long, widest a short distance behind the middle; disc quite strongly convex; less so antero-posteriorly, punctate, the punctures small, distinctly defined and separated by a distance equal to twice or at least their own diameter, interspaces flat and rather smooth, submarginal line strong and entire, submarginal area reto-rugose; sides quite evenly arcuate, feebly convergent anteriorly, with edges finely and irregularly subserrulate; apical margin slightly arcuate in circular arc; base moderately arcuate and feebly sinuate laterally at submarginal area and a little wider than the apex; apical angles rounded; basal angles broadly rounded and continuing the sides into the base. Elytra rather broad, distinctly less than twice as long as wide, and slightly widened posteriorly; base slightly wider than the prothorax; humeri scarcely tumid; sides feebly arcuate and subparallel; apex obtusely parabolic, sutural angles very narrowly rounded; disc moderately convex, punctate, the punctures

fine, separated by a distance at least twice their own diameters, interspaces flat and obsoletely, minutely reticulate. Abdomen rather densely punctulate and clothed rather densely, especially at the sides and on the fifth segment, with moderately long, recumbent, luteo-cinerous hairs. Measurements— φ φ . Length, 2.8-3.0 mm.; 1.0-1.2 mm.

Hab.—Shasta Retreat, Siskiyou Co., California, elev. 2416 ft. Beaten from the flowers of *Quercus echinoides* var. densiflora in July.

The specimens before me are apparently all females, the apical margin of the fifth ventral segment is feebly arcuate, and the third joint of the antennæ slender.

This species differs from *vicinus* in its much finer punctuation; from *hudsonicus* it is recognized by the broadly rounded basal angles of the prothorax. The pubescence is noticeably shorter than in *vicinus*, and less bristling and lighter in color than in *hudsonicus*, the prothoracic proportions are quite different in the two species. *Obtusus* occurs in Colorado and has the elytra finely, sparsely and but slightly rugosely punctate. *Expansus* which occurs north of San Francisco is more depressed in form.

Casey's synoptic table may be modified as follows for the reception of the above species:

Pubescence distinctly intermingled with longer erect black hairs.

Elytral vestiture cinerous, except the longer erect black hairs; basal angles obtuse and slightly blunt; thoracic punctures sparse.

obtusus.

Elytral vestiture cinerous but becoming dark and inconspicuous behind the middle; elytra broad and depressed . . . expansus.

The following remarkable blind Tenebrionide was discovered by Mr. F. W. Nunenmacher on June 11, 1904, at Fairfax, Marin Co., California.

ESCHATOPORIS gen. nov.

Body moderately depressed. Head not strongly retracted into the prothorax, scarcely narrowed behind, sides not promi-

nent, anteriorly moderately converging; front not dilated; epistoma truncate in feeble arc; labrum moderately transverse and exposed; mandible emarginate, superior cusp acute and longer than the smaller and shorter cusp; mentum small and subquadrate, gular peduncle distinct; labial palpi small; maxillary palpi with the last joint dilated and triangular; antennæ 11-jointed, inserted under a distinct ridge. Eyes absent. Prothorax loosely articulated with the mesosternum; prosternum not at all prominent ventrally, rather long before the coxæ; propleura slightly convex and not defined from the prosternum. Elytra at humeri quite rapidly retreating posteriorly so as to give a feeble sub-pedunculated appearance to the body, not widely nor firmly embracing the flanks of the abdomen; epipleura narrow, scarcely inflexed, and not well defined from the elytral disc, margin broadly and slightly sinuate behind the sterna. Mesosternum and metasternum moderate in length, the former scarcely more prominent ventrally between the coxæ than the anterior condylar portion. Scutellum broad and triangular, not prominent nor very distinctly defined and but feebly entering between the elytra. Episternal pieces not distinctly defined, the metasternal episterna evidently narrow with the epimera short and as long as wide. Hind margins of the third and fourth abdominal segments subcoriaceous, with the third and fourth ventral sutures moderately impressed, corresponding segments not emarginate at apex. Intercoxal abdominal process broad and parabolically rounded between the coxe and about a third of its width wider than the mesosternal salient. Sternal sutures scarcely at all evident. Anterior coxæ small and rounded, rather narrowly separated by the prosternum. Middle coxæ rounded, moderately widely separated and with a small but distinct trochantin. Hind coxæ oval, feebly narrowed externally, transverse and distant. Legs moderate and simple; profemora moderately clavate, mesofemora less so, metafemora but slightly thickened externally. Tibial spurs small and distinct. Tarsi obsoletely grooved beneath, and moderately slender; claws slender and simple.

An analysis of structural characters shows that the genus

Eschatoporis is distinctly related to the tribe Scaurini, although there are certain disturbing elements, which can no doubt best be brought out by direct comparison as follows:

MUTUAL SCAURININE CHARACTERS.

coriaceous and corres- distinct or long. sponding sutures impressed. Anterior coxæ rounded; middle coxæ with a distinct trochantin: hind coxæ oval and widely separated. Tarsi spinous beneath. Scutellum broad and not penetrating between the elvtra.

CHARACTERS PECULIAR TO THE Scaurini.

Body elongate and ap- Head prolonged behind Head not prolonged beterous; mentum small; the eyes; eyes present; hind the eyes; eyes abligula prominent; gular front dilated; labrum sent; front not dilated; peduncle distinct; maxil- covered; antennæ with labrum exposed; antenlary palpi with last joint outer joints broader and næ with outer joints scardilated and triangular; transverse. Side pieces cely at all broader. Side antennæ 11-jointed. Ely- of the mesosternum dis- pieces of the mesosternum tra not embracing widely tinct. Third and fourth scarcely distinct. the flanks of the abdo- ventral abdominal seg- and fourth segments scarmen; epipleura reach-ments deeply emarginate, cely emarginate (as in ing tip of elytra. Hind in all genera except one, Eulabis). Legs moderate margin of the 3d and 4th Legs long, sometimes and simple (as in Eulaabdominal segments sub-toothed. Tibial spurs bis.) Tibial spurs small

CHARACTERS PECULIAR TO Eschatoporis.

and distinct.

By comparison it appears that if the genus is to be Scaurinine, the tribal characters must be revised or else two sections be recognized, or else a new tribe (Eschatoporini) be erected for its reception. The genus Eschatoporis is related to Eulabis in the form of certain abdominal segments and the legs, otherwise it has a Scaurinine habitus, although very small in comparison to the other tribal constituents. In the tribe Scaurini it must be placed between Eulabis and Cerenopus.

Eschatoporis nunenmacheri sp. nov.—Elongate, oblong-oval, about three times longer than wide, rufo-testaceous, sparsely clothed with pale pubescence, more or less glabrous and shining, strongly, coarsely and quite evenly punctate, the punctures more or less distinctly ocellate. Eyes absent. Head rather small, somewhat coarsely and sparsely punctate, each puncture anteriorly with a rather long suberect hair, elsewhere the hairs are shorter and semi-recumbent; from nearly plane, limited laterally by the supra-antennal convexities; frontal suture fine and more or less distinct; vertex slightly and evenly convex, continuously so with the tempora laterally, the latter scarcely arcuate behind the antennæ and not in the least prominent; antennæ long, reaching beyond the base of prothorax, comparatively stout, gradually and feebly incrassate, each joint subcylindrical and narrowing slightly from apex to base, joints two and three subequal in length and obconical, joints four, five and six equal in length to the third, suboval in outline with side more arcuate, joints seven and eight slightly longer and a little more robust, the seventh suboval, the eighth suborbicular, joints nine and ten stouter, eleventh oval and about one-half longer than wide. Pronotum subquadrate, a little longer than wide, widest at junction of middle and anterior thirds; disc evenly, moderately and transversly convex, scarcely so antero-posteriorly, quite coarsely, sparsely and irregularly punctate, each puncture with a rather short, curved and semi-recumbent seta; apex truncate in circular arc, not margined; sides rather unevenly and not strongly arcuate in anterior moiety, thence very feebly arcuate or straight and slightly converging to base, margin distinct but not beaded; base feebly rounded and obsoletely beaded and about equal to the apex; apical angles obtuse and not rounded, nor anteriorly prominent; basal angles more or less rounded. Propleura slightly convex, sparsely and subocellately punctate, punctures smaller than on the disc; surface more or less very minutely rugulose posteriorly. Elytra oblong-oval, about twice as long as wide, widest at middle two-fourths; base not margined and moderately distant from the prothoracic base, the mesonotal condylar region moderately exposed giving a subpedunculated effect; humeri obsolete; sides moderately arcuate and rather gradually retreating from the humeral region, subparallel at middle two-fourths and thence to apex evenly arcuate; subparabolically rounded; disc moderately depressed and very feebly convex on dorsum, laterally moderately rounded and not inflexed, very feebly, evenly and arcuately declivous posteriorly, punctate, the punctures more or less ocellate and distinctly seriate on dorsum, becoming irregular at the periphery, the strial punctures are comparatively large, circular and somewhat shallow, each with a curved. semi-recumbent, moderately short seta, arising from a centrally placed, minute eminence, the interstitial punctures small, each with a seta similar to those of the strial punctures. Sterna and parasterna coarsely and rather sparsely punctate, and ocellate as above, each puncture with a short seta. Abdomen feebly convex, moderately coarsely and sparsely punctate, each puncture with a moderately short nearly recumbent seta. Legs moderate. Tibiæ rather slender and clothed with fine moderately long hairs. Tarsi similarly clothed, the feeble grooves beneath margined by pale delicate spinules. Measurements—7.—Length, 3.2 mm.; width, 1.0 mm. Q. Length, 3.9 mm.; width, 1.2 mm.

Hab.-Fairfax, Marin Co., California, June.

Mr. Nunenmacher stated that he obtained the specimens while digging in a ledge near a spring. He did not state whether they were taken in company with ants. He was collecting *Promecognathus lævissimus* at the time.

At first glance, before examination, this species might be mistaken for *Bembidium rickseckeri*, but it was lighter in color and of slower movements; at a casual glance it more resembles *Bembidium laticeps* in form and color.

The sexual characters are not very evident, the male is evidently smaller and narrower. The metasternum is slightly impressed at middle just in advance of the abdominal process.

The first abdominal segment is equal in length to the fourth and fifth taken together, and its post-coxal portion is equal to the length of the third; the second is a third longer than the third. The tibial grooves of the femora are moderately well defined. The tarsal grooves of the tibiæ are not evident. The protarsi have the first and second joints when taken together about equal to the length of the fifth: the first slightly longer than the second, the third and the fourth are shorter and not equal in length. In the mesotarsi, joints one and two are subequal in length and together about as long as the fifth; the third and fourth taken together distinctly longer than the second, the third is distinctly longer than the fourth. The metatarsi have the first joint at least as long as the third and fourth taken together, and about twice as long as the second, the latter being about a third of its own length longer than the third joint.

EXPLANATION OF PLATE II.

- Fig. 1. Eschatoporis nunenmacheri dorsal view, ♀.
 - " 2. The elytral punctuation more highly magnified.
 - " 3. Secondary sexual characters of Lathrotropis caseyi sp. nov., o.
 - " 4. Male secondary sexual characters of Lathrotropis puncticeps
 - " 5. Male secondary sexual charreters of Lathrotropis jacobina Lec.
- " 6. Male secondary sexual characters of Lathrotropis relicta Casey.